

ABANDONED URANIUM MINES PROJECT ATLAS

APPENDIX D

GLOSSARY

Activity	The intensity of radiation produced by a radioactive source.
Adit	A horizontal entrance to a mine.
Alpha-emitting	A substance which gives off helium nuclides during radioactive decay.
Aquifer	A region of rock, gravel, or sand below ground surface containing water in sufficient quantity to produce water in a well.
Background	Naturally occurring baseline condition; usually referring to regional levels or quantities of a substance.
Beta-emitting	A substance which gives off electrons during radioactive decay.
Cosmic ray	A very high energy form of radiation which originates in outer space.
Curie	A measure of the intensity of radiation produced by a radioactive source (abbreviated Ci).
Daughter product	Any nuclide which is the result of radioactive decay of a more massive nuclide (e.g., Bismuth ²¹⁴ is a daughter product resulting from the radioactive decay of Uranium ²³⁸).
Debris pile	Waste rock consisting of overburden and lower grade ore left behind by mining operations.
Exposure	Contact with ionizing radiation or radioactive material. The contact is measured as the amount of radiation coming into contact with an individual and given in Roentgen (R)
Gamma radiation	A form of radiation that originates from radioactive materials such as uranium and cosmic rays.
Gross alpha	Total intensity of radiation from a source attributable to alpha-emitting radionuclides.
Gross beta	Total intensity of radiation from a source attributable to beta-emitting radionuclides.
Isotope	One of different forms of the same element, each having a different mass (e.g., Uranium ²³⁸ and Uranium ²³⁵).
Nuclide	Nucleus of an atom identified by the name and mass of the atom (e.g., Radium ²²⁶)
Pico	A prefix which means 10 ⁻¹² (e.g., a picocurie is 1x10 ⁻¹² Curie).
Preliminary Remediation Goals	Preliminary Remediation Goals published semi-annually by the USEPA Region 9 for use as risk-based guidance for compounds in soil.
Proto-ore	Low-grade ore.
Radioactivity	A property of certain kinds of chemical elements whose atomic nuclei are unstable: in time each such nucleus achieves stability by a process of internal change called radioactive decay, which involves a release of energy in a form known as radiation.
Radionuclides	Nuclei of atoms that are radioactive. They are identified by the name and mass of the atom (e.g., Bismuth ²¹⁴ and Uranium ²³⁸).
Radon	An unreactive or inert, radioactive gas.
Roentgen Equivalent in Man	A roentgen equivalent in man (Rem) is a unit of absorbed radiation corrected for various factors such as the type of radiation. A dosage of radiation that will produce a biological effect approximately equal to that produced by one roentgen of gamma radiation.
Risk	The degree or probability that a material can cause cancer or other adverse health effects.
Risk-based guideline	Guideline for acceptable concentration of a material in soil or water based on the probability that the material will cause adverse health effects.
Roentgen	The basis unit of measure for radiation exposure equal to approximately 2.2x10 ⁻⁶ calories of radiation energy absorbed per gram of absorbing material.
Shaft	A vertical entrance to a mine.
Talus slope	A slope formed by an accumulation of loose rock fragments